Enco®

CATALOG 67

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Satisfaction Guaranteed or Money Back

Terms: Net 10 days. All prices are F.O.B. our plant in Chicago. Prices subject to change without notice.

ONE YEAR GUARANTEE

Enco products are guaranteed to be free from defects in materials and workmanship for one year from date of purchase. We will replace any part or parts found defective after receipt of the product in our plant. It is the intent of Enco Manufacturing Company that every purchaser of any Enco product be completely satisfied with his purchase.

IN ADDITION TO THE GENERAL GUARANTEE, we make the following specific guarantees about these products:

TURRET AND TURRET-QUICK CHANGE TOOL POST—Re-Indexing accuracy to .0005

TAILSTOCK TURRETS—Shank to hole alignment ± .001.

SELF-INDEXING HEXTURRETS—Re-indexing accuracy ± .0005.

MICROSET ADJUSTABLE CENTERS—Accurate within .006" range to ± .0002.

PRECISION LIVE CENTERS—T.I.R. within .0002"

TINY TITAN MAGNETIC BASE TOOLS—Magnetic pull—budget, 50 lbs. single, 65 lbs.; Duplex, 125 lbs.; Intermediate, 80 lbs.; ON-OFF, 125 lbs.

NOTE: A guarantee Certificate is enclosed with each Enco Product.

See Your Enco Dealer

FLEXIBILITY

Enco ON-OFF MAGNETIC BASE

Flexible Stem Indicator Holders

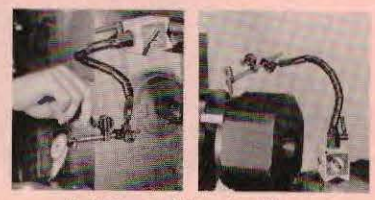
Quickly Positions Indicator Even In Hard-To-Reach Locations.

Model 355 Complete with FINE ADJUSTMENT 3-dia. 5½" Rod

$28.75

Patent pending

NEW



A—Truing up fixture in mill
B—Aligning work-piece in lathe

- Stem flexes Almost 360°
- 3-dia., rod provides full 360° adjustment for fast, accurate positioning of indicator
- 3-dia. rod fits all indicators with 5/16", 3/8" and 3/8" mounting
- Maximum Rigidity Stable to Better Than .0001", Not Reduced By Constant Use
- Extra Flexibility With 8 Hardened Collars And 9 Hardened Precision-ground Balls
- 125 lb. Pull and Centered "V" Magnet Assure Strongest Possible Grip on Round or Flat Surfaces
- Post Mounts 2 Ways—Horizontally or Vertically
- Locks into Exact Position With A Cam Lever-Operated Cable and Tension Adjustment

Height from bottom of base to top of stem—14¾". Magnet base—1⅞" x 2⅜" x 2⅛" high. Packed in wooden storage box.

FINE ADJUSTMENT Gives Rigid Sensitive Control of Indicator

Model 350 Complete with 3-dia. 5" Rod

$26.00

Model 3555 12¾" flexible stem only to convert models 340, 300 to flexible stem models **$17.50**

Model 3506 5" 3-diameter rod **$1.50**

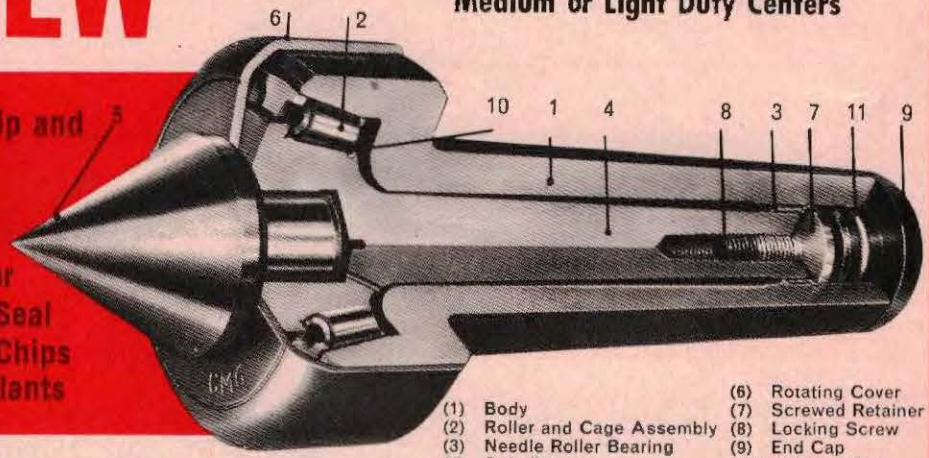
Model 3550 Fine adjust. 3-dia. 5½" rod **5.50**

Model 3025 Extra swivel adaptor for lug back indicators and indicators with ¼" and 5/32" mounting stems **$2.50**

NEW

Enco Precision Heavy Duty Live Centers Guaranteed within .0002" T.I.R. Priced Lower Than Most Medium or Light Duty Centers

Cover, Tip and Spindle Rotate As One Piece For Perfect Seal Against Chips And Coolants



(1) Body
(2) Roller and Cage Assembly
(3) Needle Roller Bearing
(4) Spindle
(5) Removable Point
(6) Rotating Cover
(7) Screwed Retainer
(8) Locking Screw
(9) End Cap
(10) Spring Ring
(11) "O" Ring

COMPACT ROLLER BEARING DESIGN WITH MINIMUM OVERHANG GIVES EXTREME PRECISION AND RIGIDITY FOR SUPERIOR PERFORMANCE UNDER DIFFICULT MACHINING CONDITIONS.

The front and rear bearing tracks are ground direct on the spindle and body. The spindle is precision ground between centers. This insures perfect concentricity and alignment of the front and rear bearing track and of the roller retaining rib. The cage is made of a light alloy casting, entirely machined. Replaceable point is ground on its own bearing to eliminate any possibility of eccentricity. Center adjusts automatically for thrust and load. The forged, hardened steel body and spindle and all points of stress are hardened to 60-62 Rockwell for maximum rigidity. Rotating cover makes set-ups easier as operator can see both point and cover turn instead of only the point. Maintenance reduced 1) because of simplified design using a minimum number of parts, 2) replaceable point, and 3) grease for over a year under normal operation.

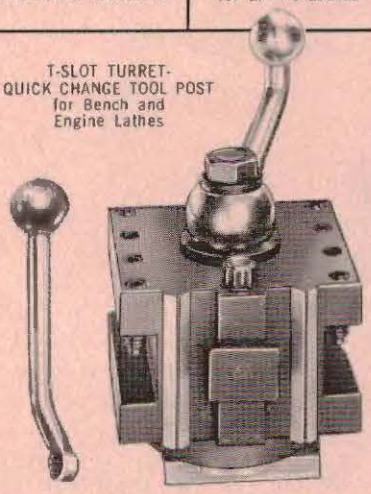
Model	Size	Combined Radial and Thrust Load at 100 RPM	Price
751	No. 1 M.T.	300 lbs.	$21.50
752	No. 2 M.T.	600 lbs.	23.50
753	No. 3 M.T.	900 lbs.	26.00
754	No. 4 M.T.	1500 lbs.	32.00
755	No. 5 M.T.	3500 lbs.	42.00
756	No. 6 M.T.	8000 lbs.	95.00
757	No. 7 M.T.	13,000 lbs.	255.00
758	1" S.S.	900 lbs.	28.50
759	1½" S.S.	1500 lbs.	35.00

Load and speed capacities have been very conservatively established to incorporate a wide safety factor and extended bearing life.

NEW *Enco* TURRET-QUICK CHANGE TOOL POST

CROSS SLIDE TURRET-QUICK CHANGE TOOL POST for Turret Lathes and Screw Machines

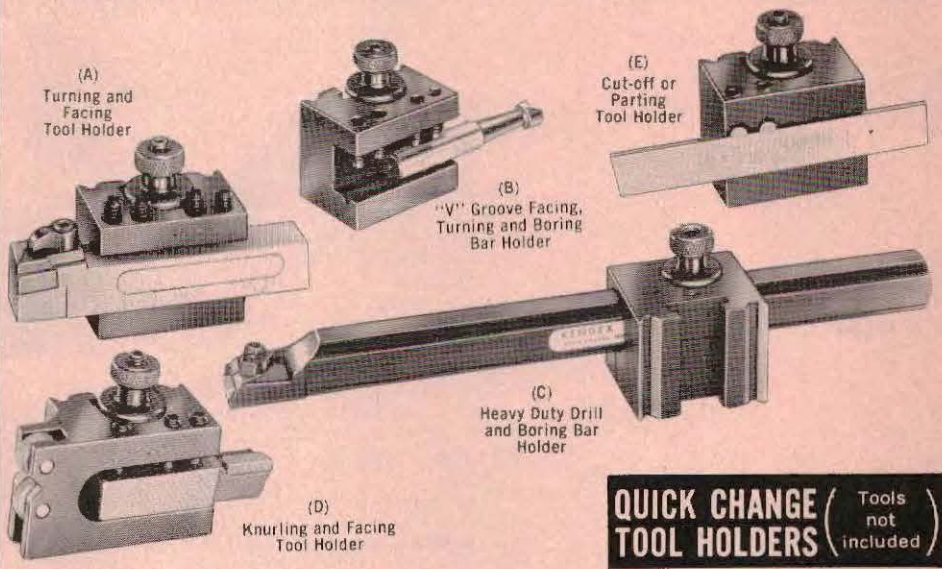
COMPOUND REPLACEMENT TURRET-QUICK CHANGE TOOL POST for Engine Lathes



T-SLOT TURRET-QUICK CHANGE TOOL POST for Bench and Engine Lathes

A QUICK CHANGE TOOL POST, COMBINED WITH A SQUARE TURRET INTO ONE UNIVERSAL TURRET-QUICK CHANGE TOOL POST

1. 12-position quick change tool post with indexing every 30°, instead of no indexing
2. 12-position turret with unlimited tool capacity for extra operations and pre-set tooling
3. Vertical height adjustment on all quick change holders that ends need for shims
4. Guaranteed .0005" re-indexing accurary, even when indexing turret and quick change holders


(A) Turning and Facing Tool Holder
(B) "V" Groove Facing, Turning and Boring Bar Holder
(C) Heavy Duty Drill and Boring Bar Holder
(D) Knurling and Facing Tool Holder
(E) Cut-off or Parting Tool Holder

PRECISION MANUFACTURED TO HIGHEST QUALITY STANDARDS

All operational surfaces of this quick change tool post including the prismatic "V" ways and mounting surfaces of the holder are hardened and ground for maximum accuracy. A special locking device secures the tool holder to the tool post and pulls it inward so that cutting pressure is downward and in towards the tool post to provide vibration-free performance. An exclusive tongue is milled to the bottom of the center post, keying it to the compound to prevent "sliding" even under the heaviest cutting conditions. Cut-off operations are faster and more efficient with Enco's cut-off tool holder into which "T" or bevel blades can be mounted. Blade breakage is minimized and blade life extended.

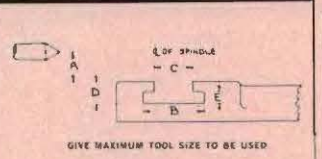
Minimum "A" Dim. shown is based on use with minimum tool size listed. Larger tools must have correspondingly larger "A" dimension of lathe. (See chart below.)

Patent pending

TURRET-QUICK CHANGE TOOL POSTS

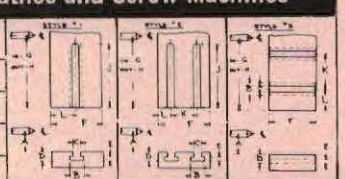
T-Slot Turret-Quick Change Tool Posts For Bench Or Engine Lathes

Tool Post with set of A, B, C, D, E Holders		Tool Posts Only		"A" Dimension (Center Hgt.) Range	Tool Capacity	TOOL BLOCK DIMENSIONS	
Model No.	Price	Model No.	Price			Square	Thick
530	$167.30	30	$ 83.00	⅞" to 1½"	⅜" to ½"	3"	1½"
535	199.90	35	104.00	1⅛" to 1¹⁵⁄₁₆"	½" to ¾"	3½"	2¼"
545	263.00	45	138.00	1⁷⁄₁₆" to 2⁷⁄₁₆"	⅝" to 1"	4½"	2¾"



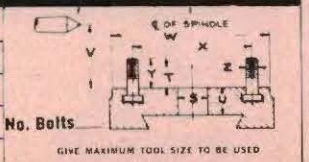
Cross Slide Turret-Quick Change Tool Posts For Turret Lathes and Screw Machines

Tool Post with set of A, B, C, D, E Holders		Tool Posts Only		Tool Capacity	TOOL BLOCK DIMENSIONS	
Model No.	Price	Model No.	Price		Square	Thick
DT530	$205.30	DT30	$121.00	⅜" to ½"	3"	1½"
DT535	248.90	DT35	153.00	½" to ¾"	3½"	2¼"
DT545	331.00	DT45	206.00	⅝" to 1"	4½"	2¾"



Compound Replacement Turret-Quick Change Tool Posts. For Engine Lathes

Tool Post with set of A, B, C, D, E Holders		Tool Posts Only		Tool Capacity	TOOL BLOCK DIMENSIONS	
Model No.	Price	Model No.	Price		Square	Thick
CR530	$219.30	CR30	$135.00	⅜" to ½"	3"	1½"
CR535	261.90	CR35	166.00	½" to ¾"	3½"	2¼"
CR545	335.00	CR45	210.00	⅝" to 1"	4½"	2¾"



QUICK CHANGE TOOL HOLDERS (Tools not included)

(A) Turning and Facing Tool Holders

Model No.	Price	Tool Capacity
30A	$13.30	⅜" to ½"
35A	14.75	⅝" to ¾"
45A	20.60	½" to 1"

(B) Turning, Facing and Boring Bar Holders

30B	$13.80	Boring bars shanks to 7/16" diam.†
35B	15.35	Boring bars shanks to ⅝" diam.†
45B	21.60	Boring bars shanks to ¾" diam.†

(C) Heavy Duty Drilling and Boring Bar Holders

30C	$17.40	Up to ¾" diam. (Use drill chuck with ¾" arbor)
35C	21.60	Up to 1" diam. (Use No. 1 or 2 Morse Taper)
45C	26.40	Up to 1¼" diam. (Use No. 1, 2, or 3 Morse Taper)

(D) Combination Knurling, Facing Tool Holders

30D	$23.20*	Knurls—⅝" diam. 5/16" wide, 7/32" axle
35D	25.50*	Knurls—⅝" diam. 5/16" wide, 7/32" axle
45D	30.50*	Knurls—¾" diam. ⅜" wide, ¼" axle

(E) Cut-Off or Parting Tool Holders (Use Type "B" or "T" ASA Blades)

30E	$16.60	½" by 1/16" to ⅛"
35E	18.70	11/16" by 1/16" to 3/16"
45E	25.90	13/16" by 1/16" to ¼"

†Same facing and turning tool sizes as "A" holder

*Includes one set of knurls

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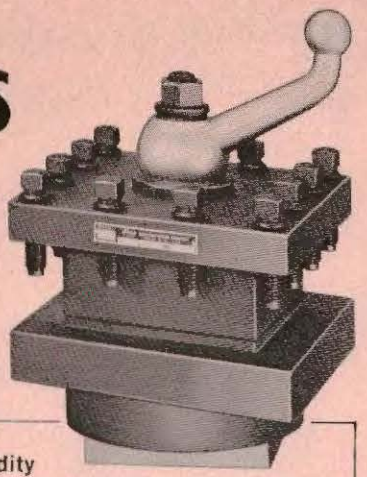
Enco T-SLOT TURRET TOOL POSTS



EXCLUSIVE TURRET FEATURES

- Reindexing Accuracy Guaranteed Within .0005"
- 12-Position Indexing Allows Indexing Every 30°
- Patented "O" Ring Seal Keeps Out Chips and Dirt
- All Hardened Construction

STANDARD

Enco Standard Turret Tool Posts offer the most economical 12 station indexing turret for lathes with center heights from ¾" to 2¾". Designed to give bench and engine lathes with swings from 6" to 21" greater productive capacity and all-around utility, Enco Standard Turret Tool Posts represent the best value on the market.

Turret Model	Dimension (Center Hgt.) Range	Lathe Swing	TOOL HEIGHT RANGE		TOOL BLOCK		Price
			Max. Solid Tools	Max. H.S.S. Tool Hdlr	Square	Thick	
2½S	¾" to 1⅝"	6" to 12"	¼" to ⅜"	—	2½"	1¼"	$43.00
3½S	1⅝" to 1¹³⁄₁₆"	10" to 13"	⅜" to ½"	#000	3½"	1¾"	67.00
3½R	1¼" to 2⅛"	12" to 15"	⅝" to ⅞"	#0	3½"	2¼"	82.00
4½S	1⅝" to 2⅜"	13" to 16"	⅜" to ¾"	#0	4½"	2¼"	91.00
4½R	1½" to 2⅞"	15" to 19"	¾" to 1"	#1	4½"	2¾"	110.00
6S*	1¹¹⁄₁₆" to 2¾"	14" to 21"	⅞" to 1¼"	#1 or #2	6"	3¼"	198.00

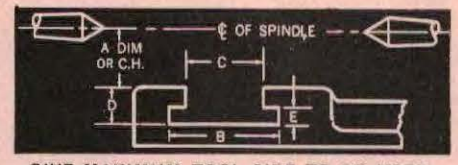
*Model 6S is furnished with forged steel block.

HEAVY DUTY

Forged steel block for extra rigidity

Capable of withstanding the strain of hogging cuts at higher speeds and proportionately more rugged in construction and with larger dimensions and capacity, Enco Heavy Duty Turrets increase the range of a given machine by permitting the use of large size tools. Tool overhang is reduced to a minimum because tools are mounted directly over the base of the Turret.

Turret Model	"A" Dimension (Center Hgt.) Range	Lathe Swing	TOOL HEIGHT RANGE		TOOL BLOCK		Price
			Max. Solid Tools	Max. H.S.S. Tool Hdlr	Square	Thick	
HD-1	1⅝" to 2½"	13" to 20"	¾" to 1"	#1	4½"	3"	$170.00
HD-2	2" to 3¾"	16" to 24"	1" to 1½"	#2 or #3	6½"	3¾"	250.00
HD-7	2⅜" to 3¹³⁄₁₆"	18" to 32"	1¼" to 1¾"	#3 or #4	7"	4¼"	290.00
HD-8	2⅞" to 4"	20" to 48"	1½" to 2"	#3 to #5	8"	4¾"	370.00

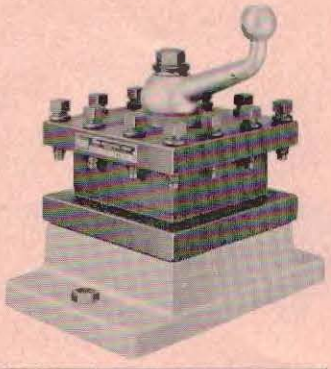


GIVE MAXIMUM TOOL SIZE TO BE USED

HOW TO ORDER AN ENCO T-SLOT TURRET

Determine "A" dimension (center height of lathe) and maximum tool height. Select proper turret model from chart above. Give center height, tool height and T-Slot dimensions (See dimension charts). Enco T-Slot turrets are machined to fit your lathe at no extra cost or may be ordered with machineable base. Lower portion of center post when hardened is specially treated for this purpose.

Enco CROSS SLIDE TURRET TOOL POSTS



A new Enco Cross-Slide Turret—fitted to your cross-slide—costs less than any competitive cross-slide turret . . . and in most cases, less than rebuilding your present turret!

Turret Model	TOOL HEIGHT RANGE			TOOL BLOCK		Price
	Max. Solid Tools	Max. H.S.S. Tool Hdlr	Carbide Tool Hdlr	Square	Thick	
D-1	⅜" to ½"	#000	—	3½"	1¾"	$116.00
D-1R	⅜" to ⅞"	#0	#T-0	3½"	2¼"	131.00
D-2	⅜" to ¾"	#0	—	4½"	2¼"	158.00
D-2R	¾" to 1"	#1	#T-1	4½"	2¾"	177.00
D-HD-1*	¾" to 1"	#1	#T-1	4½"	3"	262.00
D-3*	1" to 1¼"	#1 or #2	#T-1 or #T-2	6"	3¼"	294.00
D-4*	1" to 1½"	#2 or #3	#T-2 or #T-3	6½"	3¾"	350.00
D-HD-7*	1¼" to 1¾"	#3 or #4	#T-3 or #T-4	7"	4¼"	404.00
D-HD-8*	1½" to 2"	#3 to #5	#T-3 to #T-5	8"	4¾"	510.00

*These models furnished with forged tool blocks.

The 3½-CT and 4½-CT models are self-indexing cam locking turrets. Single action, one-handed indexing increases production by permitting simultaneous bar feeding or cross-slide movement.

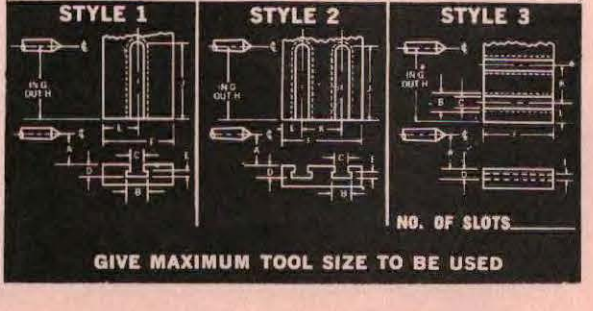
SELF-INDEXING CAM LOCKING TURRETS

3½-CT	⅜" to ½"	#000	—	3½"	1¾"	152.00
4½-CT	⅜" to ¾"	#0	—	4½"	2¼"	200.00

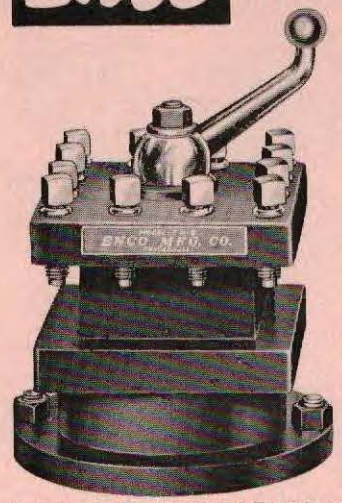
To order an Enco Cross Slide Turret Supply make of lathe, tool height and all dimensions indicated in chart below. Enco Cross Slide Turrets are custom built with flanged or block base to fit your turret.

EXCLUSIVE TURRET FEATURES

- Reindexing Accuracy Guaranteed Within .0005"
- 12-Position Indexing Allows Indexing Every 30
- Patented "O" Ring Seal Keeps Out Chips and Dirt
- All Hardened Construction



Compound Replacement TURRET TOOL POSTS



- Provides extremely heavy mounting for heavy work
- Greater tool capacity for lathes with low center height
- Re-indexing accuracy guaranteed within .0005" from every turret position
- 12-position indexing allows use of 4 different tools in 3 different positions
- Patented "O" ring seal keeps out chips and dirt

Compound Replacement Turrets are designed for use on lathes with low center height where the use of larger and heavier tooling is desirable. Because these Turrets replace the entire compound, they provide a more rigid mounting which permits the use of larger solid tools and tool holders than can be used in Standard or Heavy Duty Turrets, since the lathe center height is not a limiting factor. The Compound Replacement Turret has 12 indexing positions at 30° intervals. This means many angular turning and chamfering jobs can be done faster and easier, by indexing the face or side of the tool into correct position.

Maximum tool rigidity is achieved when using an Enco Compound Replacement Turret, since movement in the compound, compound gibs, or compound feed screw and nut are eliminated.

Turret Model	Lathe Swing	TOOL HEIGHT RANGE Max. Solid Tools	Max. H.S.S. Tool Hdlr	TOOL BLOCK Square	Thick	Price
CR-3½-S	6" to 12"	⅜" to ½"	#000	3½"	1¾"	$130.00
CR-3½-R	10" to 13"	⅝" to ⅞"	#0	3½"	2¼"	145.00
CR-4½-S	10" to 15"	⅝" to ¾"	#0	4½"	2¼"	163.00
CR-4½-R	12" to 16"	¾" to 1"	#1	4½"	2¾"	184.00
CR-HD-1*	13" to 18"	¾" to 1"	#1	4½"	3"	263.00
CR-6*	14" to 18"	⅞" to 1¼"	#1 or #2	6"	3¼"	295.00
CR-HD-2*	16" to 22"	1" to 1½"	#2 or #3	6½"	3¾"	371.00
CR-HD-7*	18" to 27"	1¼" to 1¾"	#3 or #4	7"	4¼"	430.00
CR-HD-8*	20" to 48"	1½" to 2"	#3 to #5	8"	4¾"	530.00

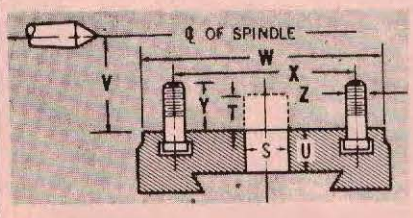
*These models furnished with forged tool blocks.

SELF-INDEXING CAM LOCKING TURRETS

CR-3½-C	6" to 12"	⅜" to ½"	#000	3½"	1¾"	163.00
CR-4½-C	10" to 15"	⅝" to ¾"	#0	4½"	2¼"	207.00

TO ORDER A COMPOUND REPLACEMENT TURRET:

Compound Replacement Turrets are custom built to fit your machine. When ordering, requesting quotation or delivery, please supply all dimensions and data shown on Chart below. Give maximum tool size to be used.



NOTE—
Give "S" in decimal dim. whether pilot or hole. If hole give only "U" dim. If pilot give only "T" dim.
Specify solid tool or toolholder size when ordering.

No. Bolts____

SELF-INDEXING CAM LOCKING TURRET TOOL POSTS

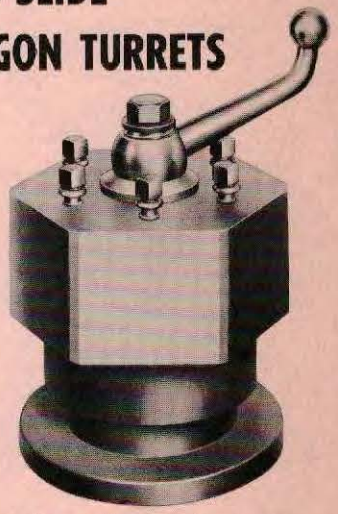
- Re-indexing accuracy guaranteed within .0005" from every turret position
- 12-position indexing allows use of 4 different tools in 3 different positions
- Patented "O" ring seal keeps out chips and dirt

For 9" to 18" Lathes

Enco Cam Locking Turrets incorporate all the operating features of other Enco Turrets. The cam lock provides fast, one-hand turret unlocking, indexing, and locking, leaving the operator's other hand free for bar feeding or cross slide movement. The cam locking handle positively locks the turret block in place with slight upward hand pressure.

Turret Model	"A" Dimension (Center Hgt.) Range	Lathe Swing	TOOL HEIGHT RANGE Solid Tools	H.S.S. Toolholder	TOOL BLOCK Square	Thick	Price
3½-C	15/16" to 1 13/16"	9" to 13"	⅜" to ½"	#000	3½"	1¾"	$104.00
4½-C	1 5/16" to 2⅜"	13" to 18"	⅝" to ¾"	#0	4½"	2¼"	135.00

CROSS-SLIDE HEXAGON TURRETS



- Utilize carriage power feed to feed Hexagon Turret
- Rigidly holds 6 tools
- Re-indexing accuracy guaranteed with .0005" from every turret position
- Patented "O" ring seal keeps out chips and dirt

Enco Cross-Slide Hexagon Turrets permit mounting 6 tools on your cross-slide to increase production capacity. Powered by use of the apron feed, these turrets bring advantages of a power operated turret to an ordinary lathe at low cost.

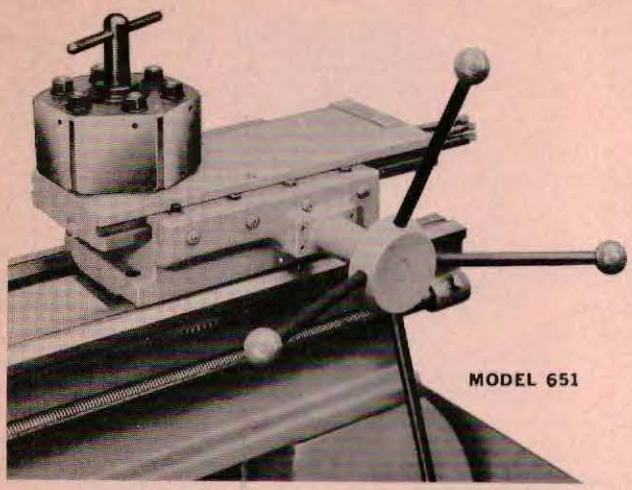
These turrets may be bored out to receive all standard screw machine and turret tools, or flanged type holders may be bolted to the faces. Operations such as drilling, reaming, boring, turning, facing, tapping, die head threading, can be done with the power feed. The hexagon head is blank. Tool mounting holes should be drilled and bored on your lathe to size required, to insure accuracy.

To order an Enco Cross Slide Hexagon Turret supply dimensions indicated on chart at left

Model	Recommended Lathe Swing	Tool Hole Capacity	Size of Hex. Across Flats	Hex Head Face Dimensions Width	Height	Price
CS-4	9" to 12"	½" to 1"	5"	2¾"	x 2⅜"	$259.00
CS-6	12" to 18"	¾" to 1¼"	6"	3¼"	x 3⅜"	325.00
CS-8	16" to 28"	1" to 1¾"	7½"	4⅛"	x 4⅛"	412.00
CS-10	24" to 40"	1½" to 2"	9"	5¼"	x 4⅜"	457.00

SELF-INDEXING HEXTURRETS

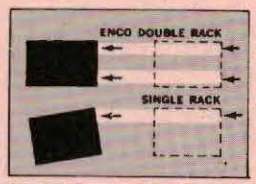
Convert Your Engine Lathe to a Hand Turret at Low Cost
Re-indexing Accuracy plus or minus .0005". Guaranteed For One Year.



With an Enco Hexturret on your lathe, you can perform all operations normally done on a turret lathe or hand screw machine including drilling, counterboring, countersinking, spot facing, reaming, turning etc. Hexagon head is furnished blank and tool holes are to be bored or reamed by customer on his lathe to insure proper alignment. Soft tool shank locks are bored at same time. Size of tool holes that can be bored are shown in chart above. Mounting holes for flanged tools must be drilled and tapped to suit tools used.
Two-piece adjustable gibs, front and rear, provide lateral adjustment for slide travel.
Gib lock provided for work on center or for recessing, necking, or grooving operations from turret.
The turret base is constructed to clear the wings of the lathe carriage. This permits the turret to be moved close to the headstock for collect work. All bearing surfaces on gibs, base and slides are precision ground and fitted. All castings are heat treated for precise long-lasting bed turret and stability.

DOUBLE RACK & DOUBLE GEAR DRIVE

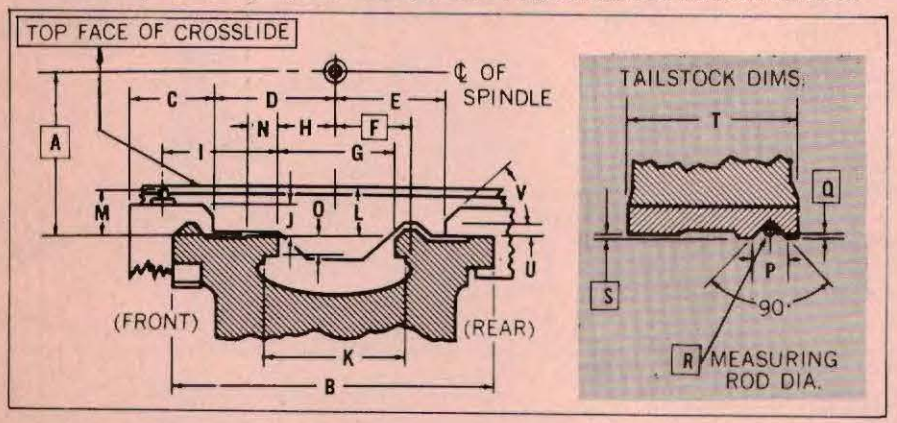
Equalizes tool feed pressure, gives smooth, parallel slide travel and minimizes torsional strain as load is equally divided, even under heavy cuts. This results in cleaner, more precise work.



HEXTURRET SPECIFICATIONS

Model	HEXAGON HEAD DIMENSIONS: Recommended Lathe Swing	Face Dimensions: Across Flats	Face Dimensions: Height	Face Dimensions: Width	Tool Hole Size Hexagon Head Can Be Bored To	Slide Length	Total Slide Travel	Working Travel of Slide	Base Length	Diameter of Tool Clearance Over Slide
651	9" to 13"	5⅝"	2⅞"	3"	⅝" to 1"	16½"	7½"	6½"	11¾"	10"-11" swing 3¼" 12"-13" swing 3¾"
650	12" to 16"	7"	3⅜"	3⅞"	1" to 1½"	16½"	7½"	6½"	11¾"	12" to 16" swing furnished with quotation

When ordering a hexturret, specify make and swing of lathe and supply all dimensions indicated in chart below.



Lathe Make	Swing	Model No. 651	Model No. 650
Atlas (Craftsman)	10" or 12"	$495	
Cincinnati Hydrashift	10" or 12½"	570	$605
	15" or 17"		645
	18" or 19"		695
Clausing	10" or 12"	495	560
	14"		605
Clausing-Colchester	13"	535	585
	15"	580	630
	17"		695
Delta	10" and 11"	495	
	14"		610
Harrison	11"	510	
	12"	545	
	13"	555	605
Hercules	14"		645
LeBlond Regal	13"	560	600
	15"		630
	17"		670
	19"		695
Lodge & Shipley	10" Hiturn	585	635
Logan	10", 11"	495	
	12"	500	570
	14"	540	610
Monarch	10"	550	
Sheldon	10" 11"	505	
	13"	520	595
	15"		630
South Bend	9"	475	
	10"	500	
	13"	555	585
	14½", 16"		640
	17"		695

This is only a partial listing. Enco Hexturrets can be supplied for other lathes from 9" to 17" swing. For quotation, fill in dimensions indicated on chart at left.

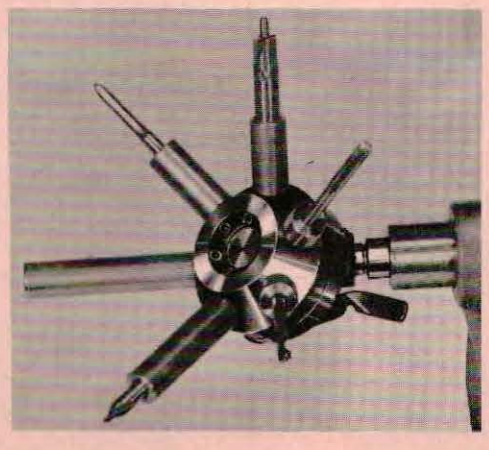
TAILSTOCK TURRETS

Put 6 tools to work in your lathe tailstock.
Multiply Your Machines Capacity up to 6 times

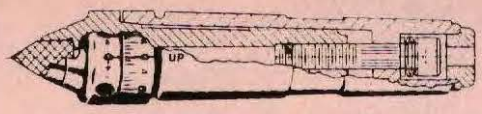
Because of their low cost, many users use Enco Tailstock Turrets as special chucks for each job, keeping tooling intact, thus saving set-up time and costs. Enco Tailstock Turrets are as simple to mount in your lathe as a center. Enco Tailstock Turrets operate under finger tip control. Tool indexing is quick and convenient.

Model	Available with Arbor Size	Size of Tool Holes	Diameter Head	Price
A	#1 or #2 Morse Taper	⅝"	2½"	$42.00
B	#2 or #3 Morse Taper	1"	5"	75.00
B	#4 Morse Taper	1"	5"	77.00
B-1	1" Diameter straight shank	1"	5"	77.00

Tool holes are drilled, bored and reamed to plus or minus .001" after the turret is assembled to assure accurate alignment of the tool holes, with the Morse Taper shank arbor. All arbors are precision ground so that when the turret is installed in an accurate tailstock, perfect centering of tools will result.
Model B-1 with 1" straight shank arbor is especially recommended for use on turret lathes and screw machines to add tool capacity.



ENCO MICRO-SET ADJUSTABLE CENTER
ENDS ALL CENTER ALIGNMENT PROBLEMS



- *Calibrated in increments of .001" on diameter of work.*
- *Provides micrometer control for taper work.*
- *Replaceable carbide tip. Saves costly setup time.*

WHAT IT DOES. The Enco Micro-Set Adjustable Center permits quick, easy center alignment on old or new machines. It eliminates the guesswork and time-consuming alignment usually required when doing precision straight or taper work. With an Enco Micro-Set Adjustable Center, any operator can make precise alignment in less than half the time usually required.

HOW IT WORKS. Corrective movement of the work held between the headstock and the Adjustable Center is accomplished by an equally eccentric ground sleeve and arbor. When assembled, they complement each other and produce lateral movement of the ground carbide tip in increments of .0005". Total tip movement in either direction is .006" which results in .012" correction on the diameter of the work. Calibrations on the sleeve indicate correction on diameter of work.

MORSE TAPER

Model	Size:	
702	#2	$49.50
703	#3	61.50
704	#4	76.00

JARNO TAPER

Model	Size:	
716	#6	$53.00
717	#7	53.00
718	#8	65.00
719	#9	65.00
720	#10	85.00
721	#11	85.00
722	#12	85.00

BROWN & SHARPE TAPER

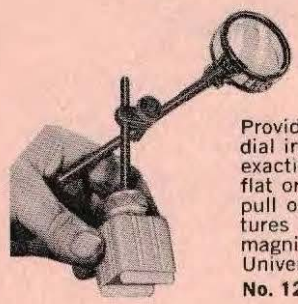
Model	Size:	
706	#6	$53.00
707	#7	53.00
708	#8	65.00
709	#9	65.00
710	#10	85.00
711	#11	85.00

STRAIGHT SHANK

Model	Size:	
725	3/4"	$56.00
726	1"	68.00
727	1 1/4"	80.00
728	1 1/2"	80.00

ENCO "TINY-TITAN" NO. 120

Combination Magnetic Base Magnifier and Dial Indicator Holders



Provides pin-point positioning for either dial indicator or magnifying glass for most exacting requirements. Mounts instantly to flat or down to 3/4 in. round surfaces with pull of 65 lbs. Exclusive "Tiny Titan" features include 2 in. double lens 5-power magnifier, versatile swivel adapter and Universal rod in 7/32, 1/4 and 5/16 diameters.

No. 120—Combination Magnetic Base Magnifier and Dial Indicator Holder.

No. 125—5-X Magnifier Sold Separately, for use with all Models. **$5.50**

No. 120
$17.40

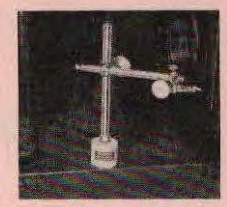
HEAVY DUTY MAGNETIC BASE LIGHT UNIT

No. 250
$24.00

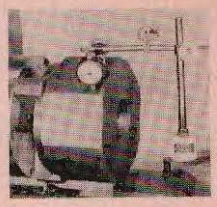
- **125 lb. Magnetic Pull Grips Flat or Down to 3/4" Round Surfaces**
- **Heavy Duty Flexible Arm**
- **Capistan-spoked and adjusting nut**

Takes standard light bulbs up to 100 watts. Ideal for use on punch presses, milling machines, etc., and as portable light for maintenance work. Rayon-flocked light shield protects against burns. U.L. approved 8-ft. oil resistant cord with rubber plug. Cam type release. Base 1 1/4" x 4" x 1 5/8" high.

NEW *Enco* BUDGET-PRICED MAGNETIC BASE INDICATOR HOLDER

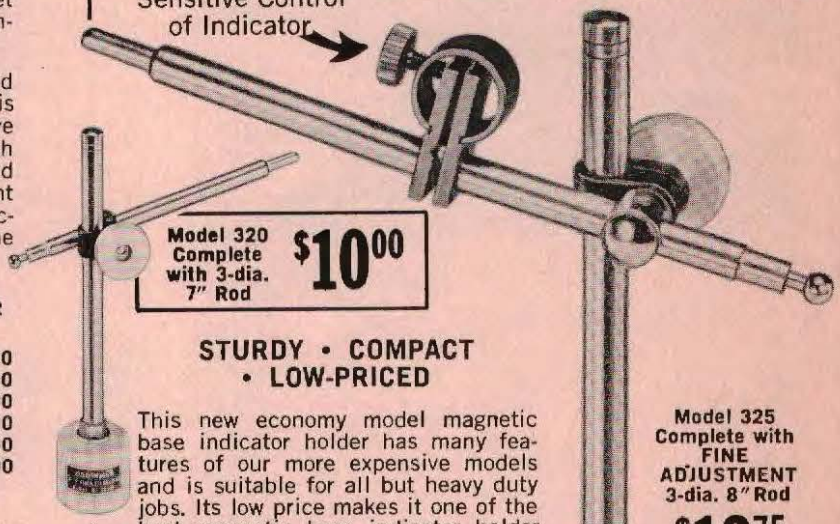


Truing up fixture in mill



Aligning work-piece in lathe

FINE ADJUSTMENT Gives Rigid Sensitive Control of Indicator



Model 320 Complete with 3-dia. 7" Rod $10.00

STURDY • COMPACT • LOW-PRICED

This new economy model magnetic base indicator holder has many features of our more expensive models and is suitable for all but heavy duty jobs. Its low price makes it one of the best magnetic base indicator holder values.

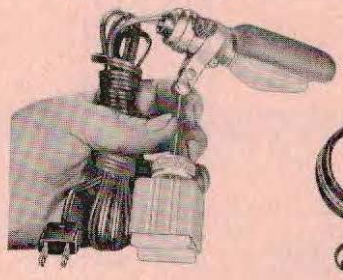
The round magnetic base is 1 1/2" in diameter, 1 5/8" high and has a 50 lb. magnetic pull. The 3-diameter universal rod fits all indicators with 5/16", 7/32" and 3/8" mounting stems. An extra swivel adaptor is available for lug back indicators and indicators with 1/4" and 5/32" mounting stems.

Model 3025 Extra swivel adaptor for lug back indicators and indicators with 1/4" and 5/32" mounting stems ...**$2.50**

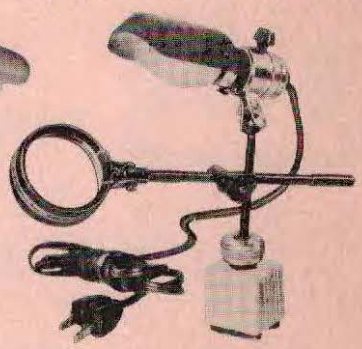
Model 325 Complete with FINE ADJUSTMENT 3-dia. 8" Rod
$12.75

Patent pending

MAGNETIC BASE LIGHTS WITH FULL 65 LB. MAGNETIC PULL



No. 200 Handi-lite
$12.50



No. 220 Combination Light, Magnifier and Indicator Holder $23.50

- **Permits Absolute Pinpoint Lighting From Any Angle**
- **Rayon-flocked Light Shield protects from burns**

Mounts easily on any flat or down to 3/4" round surface. Comes with non-glare 25 and 40 watt bulbs, 6 foot oil resistant cord, underwriter approved. Magnetic base 1 1/4" x 1 1/16" x 1 1/2". Model 220 is fitted with indicator holder and 5X power magnifier, non-distorting at 2" focal distance.

No. 2002 Extra 40 watt bulbs, packed 4 to a carton.....**$2.25**
No. 2013 Extra 25 watt bulbs, packed 4 to a carton.....**$2.25**

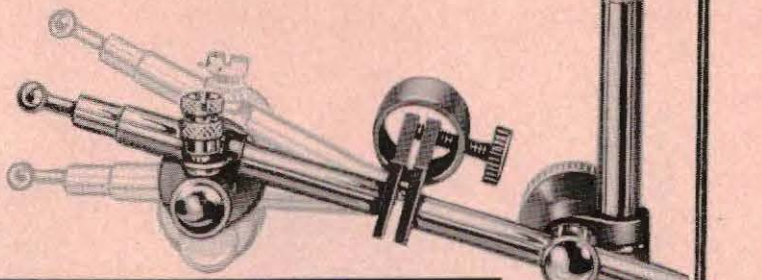
Enco Exclusive ON-OFF MAGNETIC BASE INDICATOR HOLDERS Fit All Indicators

MODEL 300 with 7" 3 diameter rod complete with scriber, wooden box

$16.00

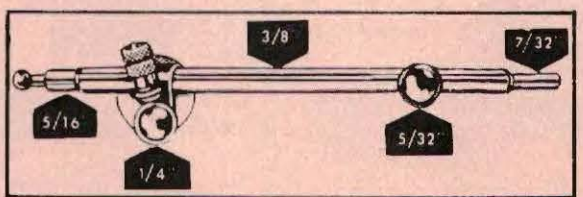
Post mounts 2 ways, vertically and horizontally. Operate from any position.

5/32" split bushing for short stem test indicators included.

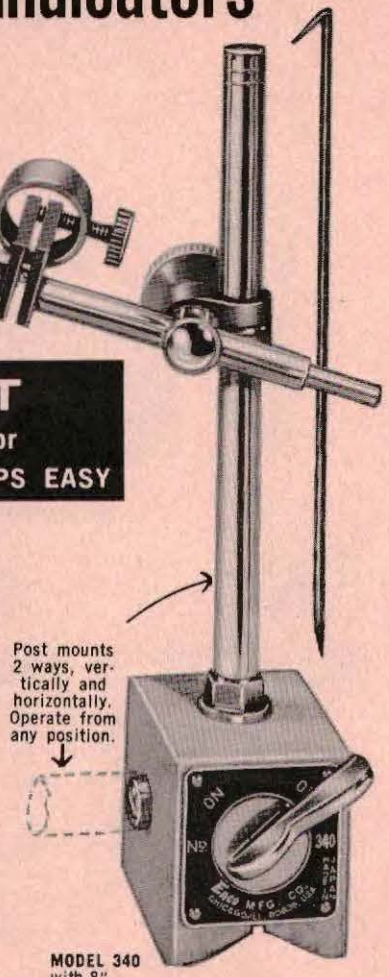


FINE ADJUSTMENT

Gives Rigid Sensitive Control of Indicator
ON ANY PLANE, MAKING DIFFICULT SET UPS EASY



3-DIAMETER UNIVERSAL ROD AND SWIVEL ADAPTOR
FITS ALL INDICATORS



Post mounts 2 ways, vertically and horizontally. Operate from any position.

MODEL 340 with 8" 3 diameter fine adjustment rod complete with scriber in wooden box **$18.75**

*Patent pending

THREE DIAMETER universal rod fits indicators requiring 5/16", 7/32" and 3/8" mounting stems. Extra swivel adaptor for lug-back indicators and indicators with 5/32" and 1/4" mounting stems.
POWERFUL 125 lb. vibration-free magnetic full is strong enough for large lug-back indicators.
CENTERED "V" MAGNET for strongest possible grip on round or flat surfaces.
ON-OFF LEVER CONTROL for easy one-hand mounting and unmounting. No risk to polished surfaces.
Overall height of indicator holder from base to top of stem is 10¼". Magnet base is 1⅞"X 2⅜"X2⅛" high. Packed in strong wooden box for safe storage. A 5/32" scriber is included. Chrome finish.

ENCO "TINY-TITAN" MAGNETIC BASE TOOLS

No. 130 With precision adjustment for zeroing indicators.

$14.00

No. 100 With straight stem.

$11.90

MAGNETIC BASE INDICATOR HOLDERS for mounting test indicators on flat or down to ¾" round surfaces

- 65 lb. Magnetic Pull
- 3-step Universal Rod in 7/32", ¼", and 5/16" Diameters
- Swivel adapter adjustment of 360° in all directions.
- Base 1¼" x 1 7/16" x 1½"

HEAVY DUTY DUPLEX MAGNETIC BASE HOLDERS

For Test and Lug-back Indicators

- 125 lb. Pull on Flat or Down to ¾" Round Surfaces
- 3-Step Universal Rod in 7/32", ¼" and 5/16" Diameters
- Swivel Adaptor for 360° Adjustment in All Directions
- Knurled "Capstan - spoked" Adjusting Nut
- Fast Action Cam Release Positioning Screw
- Offset 2 diameter ¼", 5/32" Clamp Rod also for Lug Back Indicators
- Base 1¼" x 4" x 1⅝" high

No. 160 With Precision Adjustment

$23.50

No. 150 With Straight Stem

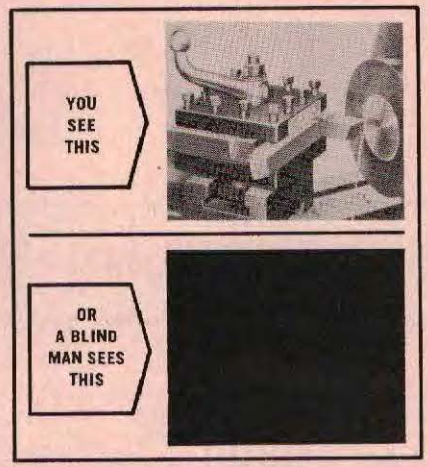
$21.20

Enco SAFETY SHIELDS Protect Eyes Against Chip Burns

- Magnetic Base Safety Shields
- 80-lb. magnetic pull . . . grips flat or round surfaces
- Shield swivels 360° . . . locks securely in place
- Fits lathes, mills, grinders, shapers, etc.
- Made of crystal clear, unbreakable acrylic plastic 1/8" thick
- Concave and flat shields interchangeable

NEW
CONCAVE SHIELD
deflects chips and coolants
DOWN
For Maximum Eye Protection

FOR CLOSER, SAFER EXAMINATION OF WORK



TRY ONE AND SEE

Concave Shield with Base		
Model No.	Shield Size	Price
406	6"x8"	$13.95
407	8"x10"	15.00
408	10"x12"	17.00
409	12"x16"	19.25
410	16"x20"	22.95

Concave Replacement Shields			
Model No.	Size	Carton of 3	Carton of 6
46	6"x8"	$11.50	$20.90
47	8"x10"	15.25	27.55
48	10"x12"	21.25	38.55
49	12"x16"	28.20	51.30
50	16"x20"	39.75	72.30

Flat Shield with Base		
Model No.	Size	Price
401	6"x8"	$11.95
402	8"x10"	12.65
403	10"x12"	13.60
404	12"x16"	15.00
405	16"x20"	17.60

Flat Replacement Shields			
Model No.	Size	Carton of 3	Carton of 6
41	6"x8"	$ 4.95	$ 8.90
42	8"x10"	7.45	13.45
43	10"x12"	9.95	18.15
44	12"x16"	13.95	25.80
45	16"x20"	21.75	40.20

Concave or Flat Safety Shields

Enco On-Off Magnetic Base

Chips fall away with flip of switch

Indicator Holder and Safety Shield

CONCAVE SHIELD
deflects chips and coolants
DOWN
FOR MAXIMUM PROTECTION

- POWERFUL 125 LB. PULL
- THREE DIAMETER UNIVERSAL RODS FITS ALL INDICATORS
- ON-OFF LEVER CONTROL
- CENTERED "V" MAGNET

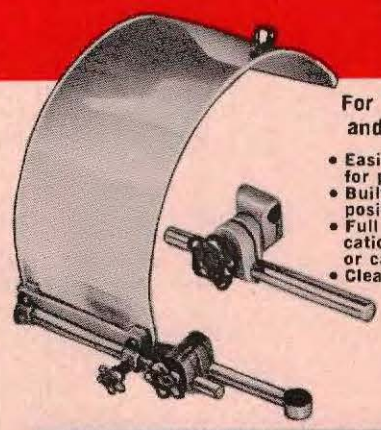
Overall height of indicator holder from base to top of stem is 10¼".
Magnet base is 1⅞" X 2⅜" X 2⅛" high.

Magnetic Base Indicator Holder with Concave Shield		
Model No.	Shield Size	Price
306	6"x8"	$21.45
307	8"x10"	22.50
308	10"x12"	24.50
309	12"x16"	26.75
310	16"x20"	30.45

Magnetic Base Indicator Holder with Flat Shield		
Model No.	Shield Size	Price
301	6"x8"	$19.45
302	8"x10"	20.15
303	10"x12"	21.10
304	12"x16"	22.50
305	16"x20"	25.10

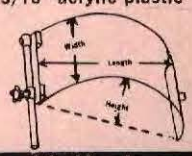
CURVED WRAP-AROUND SHIELD

Greatest Protection Against Hot Chips—Splashing Coolants



For lathes, milling machines and other machine tools.

- Easily attached with 5/16" bolt for permanent mounting
- Built-in stop can be set to any position
- Full 360° positioning for best location on engine lathe headstock or carriage
- Clear 3/16" acrylic plastic



Curved Shields Complete with Hardware					
Model No.	Suggested Lathe Size	Shield Width	Shield Length	Shield Height	Price
420	6" to 12"	6"	12½"	7"	$27.00
421	12" to 15"	7½"	16¼"	7¼"	36.00
422	15" and up	9¾"	20"	9¾"	46.00
4301	Extension Fits All Sizes				4.00

Curved Replacement Shields Only						
Model No.	Width	Length	Height	Carton of 1	Carton of 3	Carton of 6
4201	6"	12½"	7"	$11.00	$30.00	$55.00
4212	7½"	16¼"	7¼"	17.00	47.00	85.00
4223	9¾"	20"	9¾"	25.00	67.00	122.00